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## CLAIMS

[Claim(s)]

[Claim 1] It has the carrier of entering [ which supports the \*\*\*\* lining main part made from plastics ] a bulking agent, or the product made from reinforced plastics. A \*\*\*\* lining main part inserts in, and it is combined with the carrier by the doubled type friction stop method, especially sets to the tension for chain driving gears or guide rail of an internal combustion engine. A carrier (T) and a \*\*\*\* lining main part (B) The \*\*\*\* lining main part (B) which is the component part manufactured beforehand separately and was manufactured beforehand is the tension or guide rail characterized by being mechanically combined with the carrier (T) which inserted in and was beforehand manufactured with the doubled type friction stop element later.

[Claim 2] The tension according to claim 1 or guide rail characterized by the carrier (T) manufactured beforehand and preparing the mechanical coupling means which can be canceled between the \*\*\*\* lining main parts (B) manufactured beforehand.

[Claim 3] A carrier (T) and a \*\*\*\* lining main part (B) are the tension according to claim 1 or guide rail characterized by inserting in, respectively and being beforehand manufactured in the doubled type friction stop element and the one-state.

[Claim 4] While a carrier (T) is curved and prolonged in convex in a longitudinal direction about a \*\*\*\* lining main part (B), it has the flat carrier tooth-back section (5) in a longitudinal direction. In at least one part which the longitudinal direction rib (6) was formed in the edge of the carrier tooth-back section (5), and kept the interval in the longitudinal direction and was located in it from the longitudinal direction rib (6) The tension according to claim 3 or guide rail characterized by the thing to which the undercut of the both-sides section was carried out under the carrier tooth-back section (5), and which it inserts and is established for the pocket (11).

[Claim 5] A push-in pocket (11) is prepared in the edge of the carrier tooth-back section (5) turned to in the direction which keeps away from a longitudinal direction rib (6). between a push-in pocket (11) and a longitudinal direction rib (5) The tension according to claim 4 or guide rail which is the both sides of the carrier tooth-back section (5), and is characterized by preparing at least one crevice (13) constituted by the lower part by the two halt sections (14) which work effective in the longitudinal direction of the carrier tooth-back section (5), respectively.

[Claim 6] A longitudinal direction rib (6) is the tension according to claim 4 or guide rail characterized by for ends having withdrawn to the whole width of face of the carrier tooth-back section (5), and having the round overall cross-section configuration.

[Claim 7] It is beforehand manufactured in the state of having the curvature of the carrier tooth-back section while having the hook edge which a \*\*\*\* lining main part (B) is a belt-like, and can be placed on a longitudinal direction rib (6). The side plate section (15) projected across the bottom side front face (8) of a \*\*\*\* lining main part (B) in the state where it aligned with the push-in pocket (11) It is formed in the edge turned to in the direction which keeps away from a hook edge (7). the side plate section It becomes together with a \*\*\*\* lining main part (B), and U typeface cross section is formed. the free edge of the side plate section (15) The tension according to claim 4 or guide rail characterized by facing mutually and being formed as a hook (16) of the snap form which grasps a pocket shoulder with an undercut (12) behind.

[Claim 8] A push-in pocket (11) is the tension according to claim 4 or 7 or guide rail characterized by width of face being wide from the side plate section (15) at a longitudinal direction.

[Claim 9] Two longitudinal direction salients (19) are formed in a \*\*\*\* lining main part (B). a longitudinal direction salient While projecting across the bottom side front face (8) of a \*\*\*\* lining main part (B), it becomes together with a bottom side front face, and U typeface cross section is formed. the width of face of a longitudinal direction salient (19) The tension according to claim 5 or guide rail characterized by seeing to a longitudinal direction and being mostly in agreement with the distance between the halt sections (14) of each crevice (13).

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] It has the carrier of entering [ which supports the \*\*\*\* lining main part made from plastics ] a bulking agent, or the product made from reinforced plastics, a \*\*\*\* lining main part inserts in, and it is combined with the carrier by the doubled type friction stop method, especially this invention relates to the chain drive, the tension for gears, or guide rail of an internal combustion engine.

[0002]

[Description of the Prior Art] By the tension rail known for the Germany patent No. 3706136, where it has the slot of the dovetail type for fixing a \*\*\*\* lining main part for a carrier by the injection-molding method, it manufactures beforehand. next, a carrier -- a core or metal mold -- another injection molding as a part for a bottom flank -- public funds -- it inserts into type At last, next, a \*\*\*\* lining main part is formed on a carrier with injection molding, and, thereby, it is made a carrier and one. if an exception method is explained -- a \*\*\*\* lining main part -- injection molding -- public funds -- type -- manufacturing -- a core or metal mold -- another injection molding as a part for a bottom flank -- public funds -- it inserts into type, next, a carrier is formed on a \*\*\*\* lining main part with injection molding, and it is made a \*\*\*\* lining main part and one It sets after that, and the bond part between these cannot be detached without already breaking. Furthermore, by the method of starting, it is necessary for one manufacturer to manufacture the whole tension rail. Some disadvantageous profits arise by having to make one contractor manufacture using two steps of manufacturing methods, and a tension rail. since the carrier which injection molded first is contracted during cooling -- injection molding required of the 2nd phase of a manufacturing method -- public funds -- precision of type must be very high and, moreover, it needs to take the grade of contraction into consideration Costs attach this highly. furthermore -- the tension rail of various size configurations -- respectively -- two expensive injection molding -- public funds -- type is needed The hand is crowded about the 2nd phase and costs attach especially this highly. The same carrier cannot be alternatively combined with the \*\*\*\* lining main part with which some size configurations differ in this way, or the same \*\*\*\* lining main part cannot be combined with the carrier with which size configurations differ. Since separation of a bond part cannot be performed but a tension rail can be manufactured only by one manufacturer, a need person is the same configuration or cannot combine a carrier with the \*\*\*\* lining main part with which size configurations differ slightly, for example, a different \*\*\*\* lining main part of plastics specification, alternatively.

[0003] By the tension rail known for the Germany patent No. 4310306, \*\*\*\* lining is combined with the carrier so that it may insert in and the edge in the longitudinal direction of a tension rail, i.e., a chain delivery edge, can exercise freely by the way with a doubling element. or [ that a joint element carries out injection molding of the \*\*\*\* lining on the carrier (it may be expressed as a "prefab" during the following explanation) manufactured beforehand ] -- or So that a carrier may be inserted in only by either of whether injection molding is carried out on prefabricated \*\*\*\* lining and a doubling formula bond part can be obtained That is, it is the way which cannot manufacture two component parts beforehand by itself, but is combined mutually later, and is formed between \*\*\*\* lining and a carrier. In the guide rail known for U.S. Pat. No. 5045032, the carrier is beforehand manufactured from the metal and \*\*\*\* lining made from plastics is prepared on a carrier after that.

[0004] By the tension rail known for the Germany patent No. 304106, a sheet metal carrier is manufactured by bending and \*\*\*\* lining made from plastics is prepared after that. By the tension or slide rail known for the Europe patent public presentation official report No. 0193802, the sheathing material made with the wear-resistant hard material of low coefficient of friction is given on a carrier. A sheathing material is combined with the carrier which is the casting article of a lightweight metal by the spring material. The purpose of this invention can be manufactured by the low cost, and is to offer the tension or guide rail of the above-mentioned form which can moreover be attached easily.

[0005]

[Means for Solving the Problem] This purpose is the component part by which the carrier and the \*\*\*\* lining main part were manufactured separately beforehand, and the \*\*\*\* lining main part manufactured beforehand is

attained by the feature of this invention of being mechanically combined with the carrier which inserted in and was beforehand manufactured with the doubled type friction stop element later. using the component part manufactured beforehand separately -- both injection molding -- public funds -- by use of a mechanical bond part, since especially the dimensional change caused by contraction has been no longer important concerns, it can manufacture type by the low cost The need person of a tension rail can supply two kinds of component parts from a different manufacturer, and, moreover, can select a manufacturer according to cost. Moreover, since an end-user will perform an assembly by the still cheaper method depending on the case and the final-assembly article will be obtained, cost decreases much more. Furthermore, it is possible to combine various \*\*\*\* lining main parts with one kind of carrier alternatively, or to combine various carriers with one kind of \*\*\*\* lining main part, these component parts are size sides about material specifications, and only sizes which do not have influence in a bond part especially differ.

[0006] It is well-known to combine a metal lightweight carrier with a \*\*\*\* lining main part mechanically later as a matter of fact, and although moreover known for the Germany patent public presentation official report No. 3506101, manufacture and assembly expense of this tension rail are too high, and moreover, a tension rail is so heavy that it is unsuitable. Furthermore, by this manufacture method, if a carrier and a \*\*\*\* lining main part are common, they must be manufactured by different manufacturer. In invention indicated by the claim 2, while being able to prepare the bond part by the low cost, even when a \*\*\*\* lining main part or a carrier is damaged, the parts which exchange this and have not been damaged can be continued and used. Invention indicated by the claim 3 has the advantage of being formed while the joint element is manufacturing two component parts beforehand.

[0007] Invention of simple composition is technically obtained from the written content of a claim 4 about manufacture and assembly. The carrier tooth-back section serves as support means of a \*\*\*\* lining main part during use. A longitudinal direction rib can be used as a contact means for fixing a \*\*\*\* lining main part. The hooked type pocket of a carrier main part is inserted in for constituting a bond part, and is the important section of a doubled type friction stop element. Furthermore, in invention indicated by the claim 5, concave circles, i.e., position to the longitudinal direction of the carrier tooth-back section especially, can do a \*\*\*\* lining main part. A plug is possible into an engagement hook so that a longitudinal direction rib can support a big load and the centering of the \*\*\*\* lining main part may be carried out to a longitudinal direction at invention indicated by the claim 6. Invention indicated by the claim 7 shows simple joint composition. Where the hook edge of a \*\*\*\* lining main part is carried on a longitudinal direction rib, it places on the carrier tooth-back section, and it is made for the hook of snap form to fit in behind a pocket shoulder in snap operation. This bond part can be again canceled, even if there is no tool of exclusive use.

[0008] Invention indicated by the claim 8 is advantageous when making it shearing force which does an injury to the side plate section not added. Furthermore, in invention indicated by the claim 9, a \*\*\*\* lining main part gets into a crevice exactly, it is positioned on the carrier tooth-back section by the salient which tells into a carrier the force produced in working [ of a tension rail ], and a longitudinal direction in respect of latus, and the stress produced at the hook edge is mitigated in this way depending on the side plate section and the case. The example of this invention is explained below with reference to a drawing.

[0009]

[Embodiments of the Invention] That the tension rail S of drawing 1 used for the control chain drive or gear of an internal combustion engine enters a bulking agent preferably Or the carrier T made from the strengthened plastics, especially fiber reinforced plastics in one It is made from this and plastics as prefabricated parts or a prefabricated unit, and consists of the \*\*\*\* lining main part B attached in Carrier T later, and, as for the \*\*\*\* lining main part B, it is good that it is non-filled up plastics which has a good slipping property and a fatigue strength property. Two component parts T and B are manufactured separately beforehand, for example, were really formed in two component parts T and B, are inserted in, and are mechanically combined mutually with a doubled type friction stop element. Moreover, you may combine the \*\*\*\* lining main part B with Carrier T by the riveting, the screw stop, adhesion, or welding mechanically later.

[0010] Carrier T consists of rail-like base main parts 1 equipped with two or more longitudinal direction paths or openings 3 which were interrupted by the central partition 2. It sees by drawing 1 and the support eye 4 is formed in the right-hand side (introduction side of a control chain) carrier edge. Carrier T bottom curved in this example, is prolonged, the flat carrier tooth-back section 5 is formed in a longitudinal direction, and the longitudinal direction rib 6 of a round overall cross-section configuration is formed behind the edge suitable for the support eye 4. The \*\*\*\* lining main part B is the belt 10 equipped with the smooth working plane 9 and the bottom side front face 8. The \*\*\*\* lining main part B has the really fabricated hook edge 7, and this hook edge has the pocket 18 formed so that the longitudinal direction rib 6 might be received in both sides by the inside. Near the edge of a \*\*\*\* lining main part turned to in the direction which keeps away from the hook edge 7, the two side plate sections 15 are formed, these side plate section 15 is projected below across the bottom side front face 8, and the soffit section forms the hook 16 ( drawing 2 ) of snap form with an undercut. Carrying out a

deer, the side plate section 15 is approached and the longitudinal direction salient 19 caudad projected across the bottom side front face 8 is formed in the center of a simultaneously longitudinal direction of the base main part 1.

[0011] Two longitudinal direction push-in pockets or the hooked type pocket 11 is formed in the edge turned to in the direction which keeps away from the support eye 4 about the base main part 1 of Carrier T, and these pockets have the pocket shoulder 12 with an undercut respectively. furthermore, the two sides which are open toward the carrier tooth-back section 5, and are constituted by both sides by the halt section 14 at a longitudinal direction -- the crevice 13 is formed in the base main part 1 In order to combine the prefabricated component parts T and B mutually, first, the hook edge 7 is hooked on the longitudinal direction rib 6 ( drawing 4 ), and a belt is placed on the carrier tooth-back section 5. The longitudinal direction salient 19 gets into a crevice 13, and is positioned between halt section 14. The side plate section 15 is slid on a part top for the induction 17 toward which the beginning inclined with the hook 16 of those snap form, and it inserts, and inserts in into a pocket 11, and, finally the hook of snap form grasps the pocket shoulder 12 behind.

[0012] What is necessary is just to only remove the hook 16 of snap form in removal. What is necessary is to have turned over the \*\*\*\* lining main part B and just to remove from Carrier T.

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**TECHNICAL FIELD**

[The technical field to which invention belongs] It has the carrier of entering [ which supports the \*\*\*\* lining main part made from plastics ] a bulking agent, or the product made from reinforced plastics, a \*\*\*\* lining main part inserts in, and it is combined with the carrier by the doubled type friction stop method, especially this invention relates to the chain drive, the tension for gears, or guide rail of an internal combustion engine.

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## TECHNICAL PROBLEM

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## MEANS

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**DESCRIPTION OF DRAWINGS**

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**[Brief Description of the Drawings]**

**[Drawing 1]** It is the side elevation of the tension rail constituted combining the prefabricated component part.

**[Drawing 2]** It is an expanded sectional view in the II-II line of drawing 1 .

**[Drawing 3]** It is an expanded sectional view in the III-III line of drawing 1 .

**[Drawing 4]** It is an expanded sectional view in the IV-IV line of drawing 1 .

**[Description of Notations]**

T Carrier

B \*\*\*\* lining main part

1 Rail-like Base Main Part

3 Longitudinal Direction Path

4 Support Eye

5 Carrier Tooth-Back Section

6 Longitudinal Direction Rib

7 Hook Edge

10 Belt

11 Push-in Pocket

12 Shoulder

13 Crevice

14 Halt Section

15 Side Plate Section

16 Hook

19 Longitudinal Direction Salient

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**[Translation done.]**

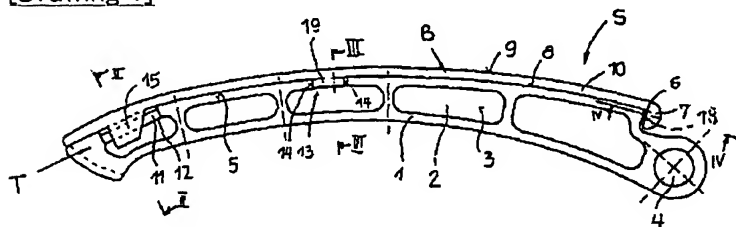
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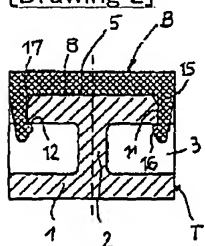
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**DRAWINGS**

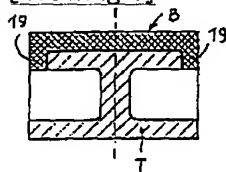
[Drawing 1]



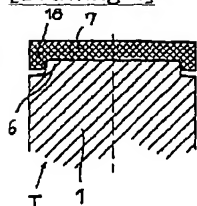
[Drawing 2]



[Drawing 3]



[Drawing 4]



[Translation done.]

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(12) 公開特許公報 (A)

(11) 特許出願公開番号

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(71) 出願人 597023248

ヨー ヴィンクルホッファー ウント ゼーネ  
ゲゼルシャフト ミット ベシュレンクテル  
ハフツング ウント コムパニー コマンデイト  
ゲゼルシャフト  
ドイツ連邦共和国 81369 ミュンヘン  
アルベルト ロッスハウプター シュトラ  
ーセ 53

(72) 発明者 ベーター シュルツェ

ドイツ連邦共和国 85375 ノイファール  
ン ガルドロシュトラーセ 1

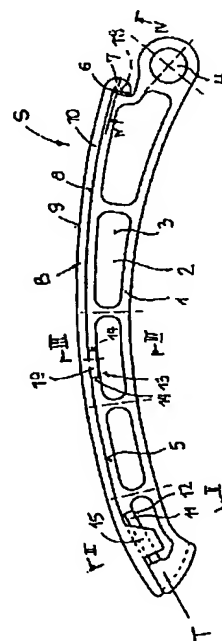
(74) 代理人 弁理士 中村 稔 (外7名)

(54) 【発明の名称】 チェーン駆動装置用テンション又はガイドレール

(57) 【要約】

【課題】 特に内燃機関のチェーン駆動装置に用いられ、低コストで製造でき、しかも容易に構成できるテンションレールを提供する。

【解決手段】 テンションレールは、充填剤入り又は強化プラスチックで作られていて、プラスチック製の滑路ライニング本体 (B) を支持するキャリア (T) を有し、滑路ライニング本体は、嵌め合せ形摩擦係止方式でキャリアに連結される。キャリア (T) と滑路ライニング本体 (B) は、別々に前もって、製造された、即ちブレハブの構成部品であり、ブレハブの滑路ライニング本体 (B) は後で、嵌め合せ形摩擦係止要素によってブレハブのキャリア (T) に機械的に結合される。



## 【特許請求の範囲】

【請求項 1】 プラスチック製の滑路ライニング本体を支持する充填剤入り又は強化プラスチック製のキャリヤを有し、滑路ライニング本体が嵌め合せ形摩擦係止方式でキャリヤに結合されている、特に内燃機関のチェーン駆動装置用テンション又はガイドレールにおいて、キャリヤ（Ｔ）と滑路ライニング本体（Ｂ）は、別々に前もって製造された構成部品であり、前もって製造された滑路ライニング本体（Ｂ）は後で、嵌め合せ形摩擦係止要素によって、前もって製造されたキャリヤ（Ｔ）に機械的に結合されることを特徴とするテンション又はガイドレール。

【請求項 2】 前もって製造されたキャリヤ（Ｔ）と、前もって製造された滑路ライニング本体（Ｂ）との間には、解除可能な機械的結合手段が設けられていることを特徴とする請求項 1 記載のテンション又はガイドレール。

【請求項 3】 キャリヤ（Ｔ）と滑路ライニング本体（Ｂ）は、それぞれ嵌め合せ形摩擦係止要素と一体的な状態で前もって製造されていることを特徴とする請求項 1 記載のテンション又はガイドレール。

【請求項 4】 キャリヤ（Ｔ）は、滑路ライニング本体（Ｂ）に関して長手方向において凸状に湾曲して延びると共に横方向に平らなキャリヤ背面部（５）を有し、横方向リブ（６）がキャリヤ背面部（５）の端に形成され、横方向リブ（６）から長手方向に間隔を置いて位置した少なくとも一つの箇所、キャリヤ背面部（５）の下でその両側部がアンダーカットされた差込みポケット（１１）が設けられていることを特徴とする請求項 3 記載のテンション又はガイドレール。

【請求項 5】 差込みポケット（１１）は、横方向リブ（６）から遠ざかる方向に向いたキャリヤ背面部（５）の端部に設けられ、差込みポケット（１１）と横方向リブ（５）との間には、キャリヤ背面部（５）の両側で且つその下方にはそれぞれ、キャリヤ背面部（５）の長手方向に有効に働く 2 つの停止部（１４）によって構成される少なくとも一つの凹部（１３）が設けられていることを特徴とする請求項 4 記載のテンション又はガイドレール。

【請求項 6】 横方向リブ（６）は、キャリヤ背面部（５）の幅全体に対して両端が引っ込んでおり、丸い全体的横断面形状を有していることを特徴とする請求項 4 記載のテンション又はガイドレール。

【請求項 7】 滑路ライニング本体（Ｂ）は、ベルト状であって、横方向リブ（６）上に置くことができるフック端部を備えと共にキャリヤ背面部の曲率を有する状態で前もって製造されており、滑路ライニング本体（Ｂ）の底側表面（８）を越えて突出した側板部（１５）が、差込みポケット（１１）と整列した状態で、フック端部（７）から遠ざかる方向に向いた端部に形成され、側板部は、滑路ライニング本体（Ｂ）と一緒に U 字

形横断面を形成し、側板部（１５）の自由端部は、互いに向かい合っていて、アンダーカット付きポケット肩（１２）を後ろで把持するスナップ形式のフック（１６）として形成されていることを特徴とする請求項 4 記載のテンション又はガイドレール。

【請求項 8】 差込みポケット（１１）は、側板部（１５）よりも長手方向に幅が広いことを特徴とする請求項 4 又は 7 記載のテンション又はガイドレール。

【請求項 9】 滑路ライニング本体（Ｂ）には、2 つの横方向突起（１９）が形成され、横方向突起は、滑路ライニング本体（Ｂ）の底側表面（８）を越えて突出すると共に底側表面と一緒に U 字形横断面を形成し、横方向突起（１９）の幅は、長手方向に見て、各凹部（１３）の停止部（１４）相互間の距離にほぼ一致することを特徴とする請求項 5 記載のテンション又はガイドレール。

## 【発明の詳細な説明】

## 【0001】

【発明の属する技術分野】本発明は、プラスチック製の滑路ライニング本体を支持する充填剤入り又は強化プラスチック製のキャリヤを有し、滑路ライニング本体が嵌め合せ形摩擦係止方式でキャリヤに結合されている、特に内燃機関のチェーン駆動又は伝動装置用テンション又はガイドレールに関する。

## 【0002】

【従来の技術及び発明が解決しようとする課題】ドイツ国特許第 3 706 136 号で知られているテンションレールでは、キャリヤを、射出成形法により滑路ライニング本体を固定するためのダブルテール形の溝を備えた状態で前もって製造する。次に、キャリヤを、コア又は金型底側部分として別の射出成形用金型内へ挿入する。遂に、次に、滑路ライニング本体を射出成形によりキャリヤ上に形作り、それによりキャリヤと一体にする。別法を説明すると、滑路ライニング本体を射出成形用金型で製造し、コア又は金型底側部分として別の射出成形用金型内へ挿入し、次にキャリヤを射出成形により滑路ライニング本体上に形成して滑路ライニング本体と一体にする。その後においては、これらの間の結合部は、もはや壊さないでは離すことができない。さらに、かかる方法では、一製造業者がテンションレール全体を製造することが必要になる。二段階の製造法を用いること及びテンションレールを一業者に製造させなければならないことにより、幾つかの不利益が生じる。最初に射出成形したキャリヤは冷却中に収縮するので、製造法の第 2 段階で必要な射出成形用金型は、精度が極めて高くなければならず、しかも収縮の程度を考慮する必要がある。これは費用が高つく。さらに、種々の寸法形状のテンションレールについてそれぞれ 2 つの高価な射出成形用金型が必要になる。これは、第 2 段階に関して特に手が込んでいて、費用が高つく。かくして、同じキャリヤを幾つかの寸法形状が異なる滑路ライニング本体と選択的に組

み合せたり、同じ滑路ライニング本体を寸法形状が異なるキャリアと組み合わせたりすることはできない。結合部の分離ができず、テンションレールを一製造業者によってしか製造できないので、需要者は、例えば、キャリアを、同一形状の又は寸法形状が僅かに異なる滑路ライニング本体、例えば、異なるプラスチック仕様の滑路ライニング本体と選択的に組み合わせることができない。

【0003】ドイツ国特許第4310306号で知られているテンションレールでは、滑路ライニングは、嵌め合せ要素により、テンションレールのその長手方向における端部、即ち、チェーン送出し端部のところで、自由に運動できるようキャリアに結合されている。結合要素は、滑路ライニングを、前もって製造された（以下の説明中、「ブレハブの」と表現する場合がある）キャリア上に射出成形するか、或いは、キャリアをブレハブの滑路ライニング上に射出成形するかのいずれかによってのみ嵌め合せ式結合部を得ることができるように、つまり2つの構成部品をそれぞれで前もって製造することはできず、後で相互に結合するやり方で、滑路ライニングとキャリアとの間に形成される。米国特許第5045032号で知られているガイドレールでは、キャリアを金属から前もって製作しておき、その後、プラスチック製の滑路ライニングをキャリア上に設ける。

【0004】ドイツ国特許第304106号で知られているテンションレールでは、板金キャリアを曲げ加工により製作し、その後、プラスチック製の滑路ライニングを設ける。欧州特許公開公報第0193802号で知られているテンション又はスライドレールでは、低摩擦係数の耐摩耗性硬質材料でできた外装材がキャリア上に施される。外装材は、弾性材料により軽金属の注塑品であるキャリアに結合される。本発明の目的は、低コストで製造でき、しかも容易に取り付けることができる上記形式のテンション又はガイドレールを提供することにある。

【0005】

【課題を解決するための手段】この目的は、キャリアと滑路ライニング本体は、別々に前もって製造された構成部品であり、前もって製造された滑路ライニング本体は後で、嵌め合せ形摩擦係止要素によって、前もって製造されたキャリアに機械的に結合されるという本発明の特徴により達成される。別々に前もって製造された構成部品を用いることにより、両方の射出成形用金型を、特に、収縮により引き起こされた寸法変化は、機械的結合部の使用によりもはや重要な関心事ではなくなっているので、低コストで製作できる。テンションレールの需要者は、異なる製造業者から2種類の構成部品を調達でき、しかもコスト次第で製造業者を選定できる。また、最終需要者は場合によっては組み立てを一層安上がりな方法で行って最終組立品を得るであろうから、コストは一段と少なくなる。さらに、種々の滑路ライニング本体

を一種類のキャリアと選択的に組み合わせ、或いは、種々のキャリアを一種類の滑路ライニング本体と組み合わせることが可能であり、これら構成部品は、材料仕様に関して寸法面で、特に、結合部に影響のないような寸法だけ異なっている。

【0006】軽金属製のキャリアを後で滑路ライニング本体に機械的に結合することは事実上公知であり、しかもドイツ国特許公開公報第3506101号で知られているが、かかるテンションレールの製造及び組立費は高すぎ、しかもテンションレールは不適当なほど重い。さらに、この製作方式では、キャリアと滑路ライニング本体は普通では、異なる製造業者によって製造されなければならない。請求項2に記載された発明では、結合部を低コストで設けることができると共に滑路ライニング本体又はキャリアが損傷した場合でも、これを取り替えて損傷していない部品を続けて使用することができる。請求項3に記載された発明は、結合要素が2つの構成部品を前もって製造している間に形成されるという利点がある。

【0007】製造及び組立に関して技術的に単純な構成の発明は、請求項4の記載内容から得られる。キャリア背面部は、使用中、滑路ライニング本体の支持手段となる。横方向リブを滑路ライニング本体を固定するための当接手段として使用できる。キャリア本体のフック形ポケットは、結合部を構成するための嵌め合せ形摩擦係止要素の要部である。さらに、請求項5に記載された発明では、滑路ライニング本体を凹部内に、即ち、特にキャリア背面部の長手方向に位置決めすることができる。請求項6に記載された発明では、横方向リブは大きな荷重を支持でき、滑路ライニング本体を横方向に心出しするように係合フック内へ差し込み可能である。請求項7に記載された発明は、単純な結合構成を示している。滑路ライニング本体のフック端部を横方向リブ上に載せた状態でキャリア背面部に置き、スナップ形式のフックがスナップ動作でポケット肩の後ろに嵌まるようにする。この結合部は、専用の工具がなくても再び解除できる。

【0008】請求項8に記載された発明は、側板部に損傷を与えるような剪断力が加わらないようにする上で有利である。さらに、請求項9に記載された発明では、滑路ライニング本体は、凹部にぴったりと嵌まり込み、テンションレールの動作中、長手方向に生じる力を広い面でキャリア中に伝える突起によってキャリア背面部に位置決めされ、かくして、側板部及び場合によってはフック端部に生じる応力を軽減する。本発明の実施例を図面を参照して以下に説明する。

【0009】

【発明の実施の形態】好ましくは、内燃機関のコントロールチェーン駆動又は伝動装置に用いられる図1のテンションレールSが、充填剤入りの又は強化されたプラスチック、特に繊維強化プラスチックから一体的に作られ

たキャリヤTと、ブレハブの部品又はユニットとしてこれ又プラスチックで作られていて、後でキャリヤTに取り付けられる滑路ライニング本体Bとから成り、滑路ライニング本体Bは、良好な滑り特性及び疲れ強さ特性を有する無充填プラスチックであるのが良い。2つの構成部品T、Bは、前もって別々に製造されていて、例えば2つの構成部品T、Bに一体形成された嵌め合せ形摩擦係止要素によって機械的に相互に結合される。また、滑路ライニング本体Bを後で機械的に、即ち、リベット締め、ネジ止め、接着、又は溶接によりキャリヤTに結合しても良い。

【0010】キャリヤTは、中央仕切り2により遮られた複数の横方向通路又は開口部3を備えたレール状基部本体1で構成される。図1で見て右側（コントロールチェーンの導入側）のキャリヤ端部には、支持アイ4が設けられている。キャリヤTの上側は、この実施例では湾曲して延びていて横方向に平らなキャリヤ背面部5を形成し、支持アイ4に向いたその端部の後ろには、丸い全体的横断面形状の横方向リブ6が形成されている。滑路ライニング本体Bは、滑らかな作業面9及び底側表面8を備えたベルト10である。滑路ライニング本体Bは、一体成形されたフック端部7を有し、このフック端部はその内側で両側に横方向リブ6を受け入れるよう形成されたポケット18を有する。フック端部7から遠ざかる方向に向いた滑路ライニング本体端部の近くには、2つの側板部15が形成されており、これら側板部15は底側表面8を越えて下方へ突出し、その下端部はアンダーカット付きスナップ形式のフック16（図2）を形成している。底側表面8を越えて下方に突出した横方向突起19が、基部本体1のほぼ長手方向中央に、しかしながら側板部15に近接して形成されている。

【0011】キャリヤTの基部本体1に関し、支持アイ4から遠ざかる方向に向いた端部には、2つの横方向差込みポケット又はフック形ポケット11が形成され、これらポケットは各々、アンダーカット付きポケット肩12を有している。さらに、キャリヤ背面部5に向かって開いていて、停止部14により両側に長手方向に構成される2つの側方凹部13が、基部本体1に形成されてい\*

＊る。ブレハブの構成部品T、Bを互いに結合するために、まず最初に、フック端部7を横方向リブ6に引っ掛け（図4）、ベルトをキャリヤ背面部5上に置く。横方向突起19が凹部13に嵌まり込んで停止部14相互間に位置決めされる。側板部15は、それらのスナップ形式のフック16と共に、最初が傾斜した導入部分17上を滑らせて差込みポケット11内へ嵌め込み、最終的に、スナップ形式のフックがポケット肩12を後ろで把持するようにする。

【0012】取外しにあたっては、スナップ形式のフック16を外せばよいだけである。滑路ライニング本体Bを捲り上げてキャリヤTから取り外せば良い。

【図面の簡単な説明】

【図1】ブレハブの構成部品を組み合わせて構成したテンションレールの側面図である。

【図2】図1のⅠⅠ-ⅠⅠ線における拡大断面図である。

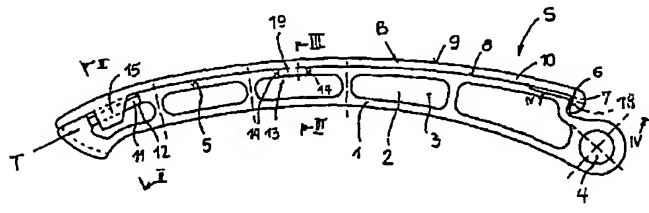
【図3】図1のⅢⅢ-ⅢⅢ線における拡大断面図である。

【図4】図1のⅣⅣ-ⅣⅣ線における拡大断面図である。

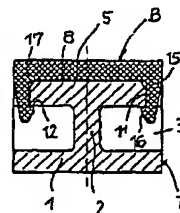
【符号の説明】

- T キャリヤ
- B 滑路ライニング本体
- 1 レール状基部本体
- 3 横方向通路
- 4 支持アイ
- 5 キャリヤ背面部
- 6 横方向リブ
- 7 フック端部
- 10 ベルト
- 11 差込みポケット
- 12 肩
- 13 凹部
- 14 停止部
- 15 側板部
- 16 フック
- 19 横方向突起

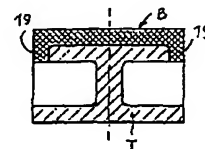
【図1】



【図2】



【図3】



(5)

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【図4】

